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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/501,251	02/10/2000	Josef Theurer	THEURER-21	3590

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EXAMINER
WEST, JEFFREY R

ART UNIT	PAPER NUMBER
2857	

DATE MAILED: 02/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application N .	Applicant(s)	
	09/501,251	THEURER ET AL.	
	Examiner	Art Unit	
	Jeffrey R. West	2857	

-- The MAILING DATE of this communication appears on the cover sh et with the correspondence address --

Peri d f r Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 January 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Pri rity under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,493,499 to Theurer et al. (henceforth Theurer '499) in view of U.S. Patent No. 5,301,548 to Theurer (henceforth Theurer '548).

Theurer '499 discloses a method of surveying a track (column 5, lines 62-66) comprising the steps of positioning a first and second measuring vehicle, the first measuring vehicle designed for mobility independent of the second stationary vehicle (column 4, lines 40-43), at end points of a track section to be measured (column 4, lines 15-18), determining the position coordinates of the second vehicle at the start of each measuring cycle with the aid of a GPS receiver, mounted on the stationary, second measuring vehicle (column 4, lines 7-9 and Figure 1), relative to a fixed reference known within a terrestrial coordinate system (column 4, lines 24-34), wherein the fixed reference may either be a track reference point (column 4, line 23) or a fixedly installed GPS reference station (column 8, lines 1-4), and setting up a reference line in the form of an optical measuring beam between an emitter mounted

on the second measuring vehicle and a receiving unit mounted on the first measuring vehicle (column 7, lines 23-31).

Theurer '499 also describes the steps of aligning the reference line with the first measuring vehicle on the basis of the determined position data (column 5, line 66 to column 6, line 9), advancing the first measuring vehicle along the line in the direction towards the second, stationary vehicle, by a predetermined distance and determining a displacement of the optical reference line perpendicular to a track direction, determining an absolute track location, as well as registering as a correction measurement value any change in position of the receiving unit mounted on the first measuring vehicle relative to the reference line (column 6, lines 30-34 and 50-56). Theurer '499 also describes the process of repeating the movement and measurement steps until the first measuring vehicle is in close proximity to the second measuring vehicle, thereby surveying the track between the two end points (column 2, lines 1-8).

Theurer '499 does not specify placing the stationary calibrated satellite receivers (i.e. fixedly installed GPS reference stations) adjacent to the track section to be measured. However, it would have been obvious to one having ordinary skill in the art to modify the invention of Theurer '499 to include specifying that the stationary calibrated satellite receivers be adjacent to the track section to be measured, because the combination would have placed the stationary satellite receivers close to the mobile devices being tracked, allowing the mobile devices to be in the signal

range of the stationary satellite receivers for a longer time, and therefore providing accurate tracking over a greater distance.

Further, although Theurer '499 doesn't specifically describe determining the position coordinates of the emitter mounted on the stationary, second measuring vehicle, this limitation is not considered critical to the implementation of the invention since Theurer '499 does describe the functionally equivalent method for determining the initial starting position coordinates of the second measuring vehicle using GPS data.

Theurer '499, however, does not teach including flanged rollers with a corresponding odometer on the mobile measuring vehicle that transmits actual track position data to be used with the reference line measurement.

Theurer '548 teaches a track measuring car including a laser beam receiver, flanged wheels, and an odometer (column 5, lines 54-63) wherein the measurement of the track is determined using the laser beam and odometer values in combination, and without use of a GPS receiver (column 6, line 66 to column 7, line 14).

It would have been obvious to one having ordinary skill in the art to modify the invention of Theurer '499 to include flanged rollers with a corresponding odometer on the mobile measuring vehicle that transmits actual track position data to be used with the reference line measurement, as taught by Theurer '548, because the combination would have provided a method for measuring the track in a tunnel or other circumstance where GPS measurement is not available, as suggested by Theurer '499 (column 3, lines 15-22).

Response to Arguments

3. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. West whose telephone number is (703)308-1309. The examiner can normally be reached on Monday thru Friday, 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (703)308-1677. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-7382 for regular communications and (703)308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

MARC S. HOFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

jrw
February 20, 2003